

**Review of the Afrotropical Gnoristinae
(Diptera: Mycetophilidae), with descriptions of nine new species
and first record of *Synapha* Meigen**

by

Loïc Matile

(Laboratoire d'Entomologie, Muséum national d'Histoire naturelle,
45 rue Buffon, F-75005 Paris)

ABSTRACT

Only two genera and species of Gnoristinae were known up to now from the Afrotropical Region. A third genus, *Synapha* Meigen, is newly recorded from this region, and five new species are described and keyed. Four species are described in *Dziedzickia* Johannsen, and a key is given to the five Afrotropical congeners. A second record is cited for *Boletiniella* Matile. Morphological, phylogenetic and biogeographical data are discussed.

INTRODUCTION

As currently defined, the subfamily Gnoristinae of the Mycetophilidae comprises 30 fossil and Recent genera and 336 species (including one Cenozoic fossil genus and a dozen fossil and Recent species of uncertain position). Most genera are restricted to the Northern Hemisphere (either Holarctic, Nearctic or Palaearctic, eventually with extensions to the Oriental), and seven are exclusively known from Baltic amber (Upper Eocene–Lower Oligocene); Cenozoic species have also been described in extant genera. Among the Southern Hemisphere genera, two (*Schnusea* Edwards and *Aisenmyia* Duret) are restricted to the neotropics and one (*Boletiniella* Matile) to the afrotropics. *Dziedzickia* Johannsen is mainly Neotropical, with extensions to the Northern Hemisphere, while *Austrosynapha* is represented by numerous species in the neotropics and a few in Australasia. The latter genus and *Synapha* Meigen (also Holarctic and Neotropical) are the only representatives of the Gnoristinae in the Australasian Region.

The poor representation of the Gnoristinae in the Afrotropical Region has already been pointed out, and the catalogue of Afrotropical Mycetophilidae (Matile 1980) cites only two genera and species. These are *Boletiniella nigrifemur* Matile, from Fernando Póo and Cameroun, and *Dziedzickia nitida* Edwards, from South Africa, the total known specimens of the subfamily numbering only four.

In this paper, *Synapha* (five species) is recorded from the Afrotropical Region for the first time; four additional species of *Dziedzickia* are also described. Keys are given to the Afrotropical species of *Synapha* and *Dziedzickia*; moreover the last genus is newly recorded from the Oriental Region (Sulawesi). New

morphological data of phylogenetic significance is given for the monotypic genus *Boletiniella*; known up to now only from Fernando Póo and Cameroun, its type species is now recorded from Gabon. With the exception of this species, the range of which should cover what remains of the forested areas of Central Africa, the Afrotropical Gnoristinae appear to be confined to the montane forest belts of eastern and southern Africa and Madagascar.

The presence of an undescribed species of *Dziedzickia* in Sulawesi, and of the genus *Synapha* in New Caledonia and perhaps also in New Zealand (Matile 1991), suggest that the Afrotropical Gnoristinae, excluding those of tropical West Africa, belong to the Africa-Indo-West Pacific track recognized for a tribe of mirid bugs by Schuh & Stonedahl (1986) (pattern 3 of Schuh (1991)). This track should be extended at least to New Caledonia which, as regards Mycetophiloidea, is a composite area of endemism (Matile 1988 1991). The Gnoristinae are currently based on symplesiomorphy (see Väisänen (1986) for a detailed discussion), and pending a phylogenetic revision, nothing more can be said about their biogeography.

ACKNOWLEDGEMENTS

Thanks are due to Dr B. R. Stuckenberg, Director of the Natal Museum, for the loan of the South African and Malagasy material of Mycetophilidae in his care, and to Dr J. R. Vockeroth, CNC, Ottawa, for a series of specimens from South Africa. Credit is also gladly given to my colleagues P. Viette and A. Descarpentries (CNRS RCP n° 225), M. Donskoff, A. Robinson, J. Chazeau and A. Peyrieras, for material collected in Madagascar, and to D. Lachaise in Kenya and to J. Legrand in Gabon. I am grateful to Dr J. Wenzel, who kindly revised the English text.

TAXONOMY

Genus *Synapha* Meigen

Synapha Meigen, 1818: 227. Type species: *Synapha fasciata* Meigen, 1818 (mon.).

Empalia Winnertz, 1863: 762. Type species: *Sciophila vitripennis* Meigen, 1818 (mon.).

This genus, as understood today, is probably polyphyletic (Matile 1991), and the relationships of its species, including those described here, with *Dziedzickia* Johannsen, *Impleta* Plassmann, *Acomopterella* Zaitsev and *Boletiniella* Matile should be elucidated in the future. Presently, *Synapha* is known from the Holarctic, Neotropical and Australasian Regions, and is here recorded for the first time from the Afrotropical Region. Five species are described below, four from Madagascar and one from Kenya.

These species have the laterotergites bare, as in the type species and the other Holarctic species, but may be distinguished from all other congeners by the subcosta ending on the radius before the level of Rs, a probable apomorphic character state (see character analysis in Matile 1990). They are very closely allied and I have no doubt that they form a monophyletic group. It is restricted, as far as known, to the montane parts of tropical Africa and Madagascar. The species are distinguished from one another mainly by details of the male genitalia, especially the form and ciliation of the gonostyles; coloration of the legs may allow a first diagnosis, as shown in the following key.

Key to the Afrotropical species of *Synapha*

- 1 Legs, palpi and halteres uniformly brown. Hypopygium: Figs 3–4. [Madagascar] **spiniphora** sp. n.
- Legs partly yellow; palpi and halteres yellow 2
- 2 Coxae II – III and femora III uniformly brown. Hypopygium: Figs 1–2. [Madagascar] **viettei** sp. n.
- Coxae II – III at most brown basally; femora yellow, brown at base and apex 3
- 3 Coxae entirely yellow; tibiae III not darkened at apex. Gonostyle: Fig. 6. [Madagascar] **montana** sp. n.
- At least coxae I and III darkened at base, and tibiae III at apex 4
- 4 Coxae I and III very narrowly darkened at base, II uniformly yellow. Hypopygium: Figs 7–8. [Kenya] **lachaisei** sp. n.
- All coxae darkened at base, the mid on basal fourth, the posterior on basal third. Gonostyle: Fig. 5. [Madagascar] **flavonigra** sp. n.

***Synapha viettei* sp. n.**

Figs 1–2

Male holotype: Length of wing: 2,6 mm.

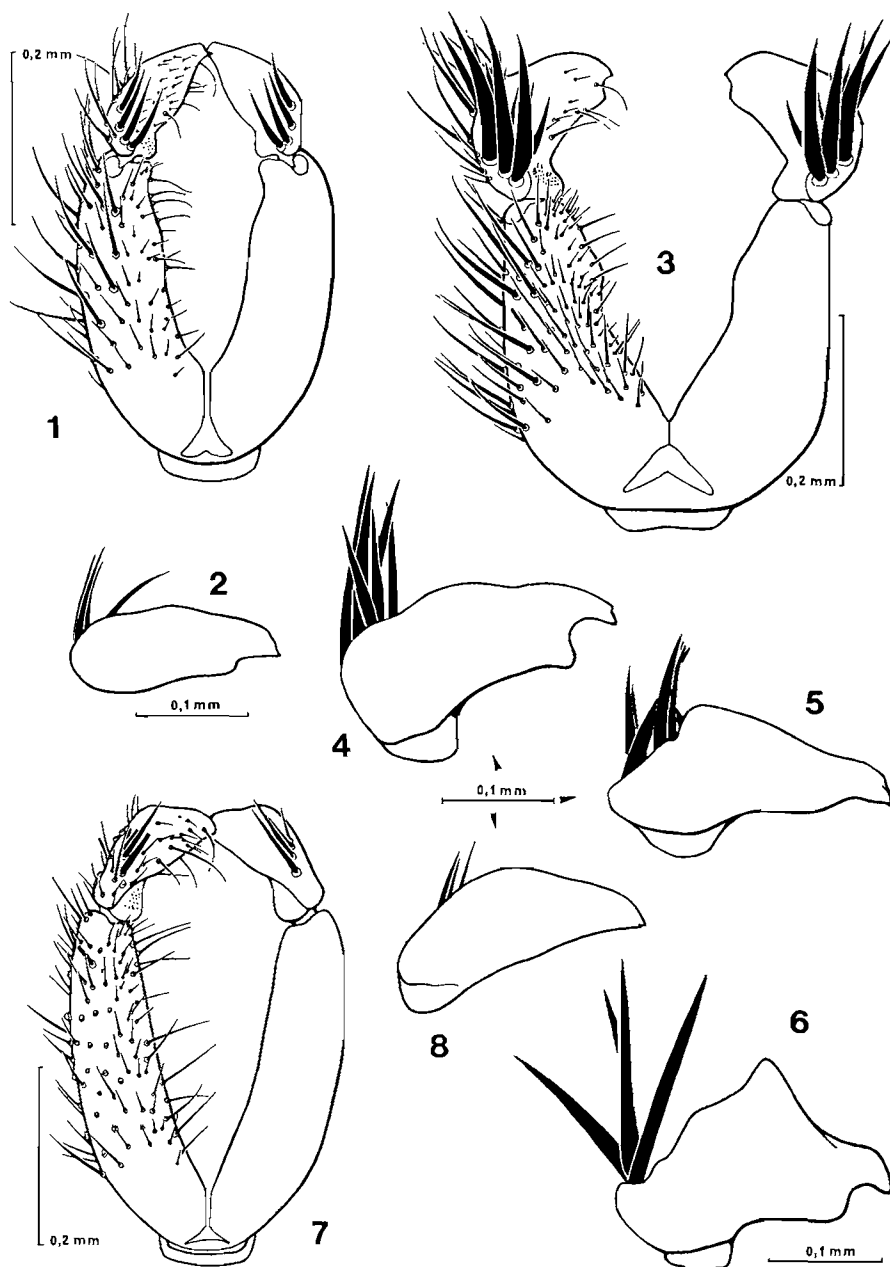
Head: Occiput and frons brownish black. Three ocelli, median one much smaller than laterals, which are removed from eye margin by about their greatest diameter. Antennae uniformly brownish black, including scape and pedicel; median flagellomeres short, but a little longer than broad. Face, clypeus and proboscis brownish black, palpi yellowish.

Thorax: Entirely shining brown-black, scutal bristles long and erect. Scutellum with 2 very long diverging latero-apical bristles in addition to normal marginal bristles. Laterotergites, mesopleurae and metapleurae bare.

Legs: Anterior coxae yellow, darkened on basal third; mid and posterior coxae uniformly brown. Anterior femora, tibiae and tarsi yellow, except for last 2 tarsomeres, which are brown. Mid legs as the anterior, but tarsomere 3 darkened on apical third. Posterior femora uniformly brown, tibiae yellow, narrowly darkened at apex, tarsi brown. Tibial spurs yellow. Mid femora without special sense organ.

Wings: Greyish. Costa long, extending well beyond apex of R_5 , reaching tip of wing. Subcosta short, bare, ending at R just before R_s . R_5 almost straight. Posterior fork beginning at same level as anterior fork, both forks setose dorsally. Anal vein very short, little sclerotised but distinctly setose. Halteres yellow.

Abdomen: Uniformly shining brown-black. Hypopygium (Figs 1–2): Brown, basal half of gonostyles yellowish. Ninth tergite rectangular, as long as gonocoxal synsclerite, but not entirely covering its lateral margins. Proctiger very basally inserted under ninth tergite. Gonocoxopodites almost entirely separated ventrally, joined only at base near remainder of ninth sternite. Gonostyles



Figs 1–8. Male genitalia of Afrotropical *Synapha* (holotypes). 1–2. *S. viettei* sp. n. 1. Synsclerite and gonostyles, ventral. 2. Gonostyle, lateral. 3–4. *S. spiniphora* sp. n. 3. Synsclerite and gonostyles, ventral. 4. Gonostyle, lateral. 5. *S. flavonigra* sp. n., gonostyle, lateral. 6. *S. montana* sp. n., gonostyle, lateral. 7–8. *S. lachaisei* sp. n. 7. Synsclerite and gonostyles, ventral. 8. Gonostyle, lateral.

simple, pointed at apex, regularly rounded along inner margin, bearing 4 strong setae, ventrally at base.

Female allotype similar to male, but antennae much shorter, the flagellomeres definitely broader than long. Ovipositor yellowish brown.

Material examined: ♂ holotype, ♀ allotype and ♀ paratype: Central Madagascar, Andringitra Centre, Plateau Andohariana, 2000–2100 m, light-trap, 9.xi–10.xii.1970, Mission CNRS (RCP n° 225). Muséum national d'Histoire naturelle, Paris.

***Synapha spiniphora* sp. n.**

Figs 3–4

Male holotype: Length of wing: 2,6 mm.

Similar to the former species, from which it differs by the brown palpi, uniformly brown legs (anterior pair lighter) and the brown halteres.

Hypopygium (Figs 3–4): Similar to *S. viettei*, but more widely opened ventrally. Gonostyles broader and bearing a clump of strong spines, the longest of which is as long as the gonostyle itself (Fig. 4).

Female allotype: Antennae as in *S. viettei*. Ovipositor yellow, last segment of cerci widely darkened at apex.

Material examined: ♂ holotype and ♀ allotype: Central Madagascar, Andringitra Sud, Andrianony, Cirque de Manjarivolo, 1650 m, light trap, 26.x–3.xi.1970, Mission CNRS (RCP n° 225). Muséum national d'Histoire naturelle, Paris.

***Synapha flavonigra* sp. n.**

Fig. 5

Male holotype: Length of wing: 2,8 mm.

Very similar to the preceding species. Palpi and halteres yellow as in *S. viettei*, but coxae mainly yellow with only base darkened, anterior narrowly, mid on basal fourth and posterior on basal third. Femora and tibiae yellow except, narrowly, the apex of femur and tibia III; also posterior femora brown at base of ventral face. Costa extending further beyond R_5 .

Hypopygium (Fig. 5): Very similar to *S. spiniphora*, but gonostyles of different form, the thickened setae a little shorter and less numerous (cf. Figs 2 & 5).

Material examined: ♂ holotype and ♂ paratype: Central Madagascar, Andringitra Centre, Plateau Andohariana, 2000–2100 m, light trap, 9.xi–10.xii.1970, Mission CNRS (RCP n° 225). Muséum national d'Histoire naturelle, Paris.

***Synapha montana* sp. n.**

Fig. 6

Male holotype: Almost identical to *S. flavonigra*, but coxae entirely yellow and posterior tibiae not darkened at apex.

Hypopygium (Fig. 6): Similar to the former 2 species, the thickened setae a little

longer than in *S. spiniphora*, but numbering 4 only. Gonostyles (Fig. 6) much broader and angular.

Material examined: ♂ holotype: Central Madagascar, Sommet Nosiarivo [Anosiarivo, Massif de l'Ankaratra], dct [sous-préfecture] d'Ambatolampy, 11–15.xii.1957, B. Stuckenberg. In accordance with the agreement between the Stuckenberg Expedition and the Institut Scientifique de Madagascar, the holotype is deposited in Muséum national d'Histoire naturelle, Paris.

***Synapha lachaisei* sp. n.**

Figs 7–8

Male holotype: Length of wing: 3,0 mm.

Very similar to *S. viettei*, from which it differs in the following character states: Antennal flagellomeres almost twice as long as broad; palpi orange-yellow. Anterior and posterior coxae very narrowly darkened at base, and apices brownish black; mid femora with small basal and ventral brown spot, posterior ones mostly yellow, but widely darkened ventrally at base, and apex brownish black. Wing: Subcosta ending well basad of Rs. R_5 straight.

Hypopygium (Figs 7–8): Similar to *S. viettei*, uniformly brown, including gonostyles, these broader, not emarginate at apex (cf. Figs 2 & 8).

Material examined: ♂ holotype: Kenya, Mt. Elgon National Park, site 3, 3000 m [bamboo forest just above *Podocarpus* zone], 8.ix.1984. In accordance with the agreement passed between the D. Lachaise, M. L. Cariou and M. Ashburner Mission (1984) and the Kenyan Department of Wild Life, the holotype will be deposited in the National Museum of Kenya, Nairobi.

Genus *Dziedzickia* Johannsen

Hertwigia Dziedzicki, 1885: 165 (preocc. Schmidt, 1880). Type species: *Hertwigia marginata* Dziedzicki, 1885 (mon.).

Dziedzickia Johannsen, 1909: 44 (new name for *Hertwigia* Dziedzicki). Type species: *Hertwigia marginata* Dziedzicki, 1885 (aut.).

Most of the 55 species of this genus have been described from the neotropics, mostly in the Brazilian center of endemism, but there are some from the Nearctic and Palaearctic Regions, including a few Eocene-Oligocene European fossil species. The genus is not recorded from the Oriental Region, but I have seen a species from Sulawesi (unfortunately a unique female).

Up to now, only one species was known from the Afrotropical Region, namely *D. nitida*, described on a female from Cape Town by Edwards in 1925. *Dziedzickia* is probably polyphyletic (Hutson 1979, Vockeroth 1980); pending its revision, I think it useful to describe the characters and male genitalia of two new species from Natal and two from Madagascar, and to give a key to the Afrotropical species.

Key to the Afrotropical species of *Dziedzickia*

- 1 Scutum without yellow markings; antennal flagellum entirely dark; 3 pairs of longer scutellar bristles 2
- Scutum entirely or partially yellow in front; at least flagellomeres 1–3 orange or yellow; 3–4 pairs of longer scutellars 3
- 2 Scutum uniformly shining black; tarsi dark brown; wing with posterior fork beginning very slightly basad of base of rm crossvein (♀ only). [South Africa] **nitida** Edwards
- Scutum shining brownish black, with median longitudinal lighter stripe; tarsi yellow (♂♀); male genitalia: Figs 9–10. [South Africa] **peckorum** sp. n.
- 3 Antennal flagellum cylindrical or slightly flattened; scutum mainly dark or mainly yellow 4
- Antennal flagellum saw-toothed, flagellomeres expanded ventrally; anterior third of scutum uniformly yellow; 3 pairs of longer scutellars (♂ only); male genitalia: Figs 12–13 [Madagascar] **microstyla** sp. n.
- 4 Scutum mainly brownish black, rufous brown anteriorly, with 2 large yellow humeral spots; 4 pairs of longer scutellars (♂ only); male genitalia: Fig. 11. [South Africa] **stuckenbergerorum** sp. n.
- Scutum mainly yellow, with 2 brown supra-alar spots. Three pairs of longer scutellars (♂ only); genitalia: Fig. 14. [Madagascar] **donskoffi** sp. n.

***Dziedzickia peckorum* sp. n.**

Figs 9–10

Male holotype: Length of wing: 5,2 mm.

Head: Occiput brown, darker around ocelli. Ocelli 3, median one half size of laterals, these separated from eye margins by less than their greatest diameter, from median ocellus by about twice this diameter. Front brown-black. Antennae: Scape and pedicel yellow, darkened ventrally; flagellum brown, except narrowed base of first flagellomere. Each flagellomere cylindrical, longer than broad, last one about 3 times longer than broad. Face and clypeus brown, centre of clypeus yellow. Palpi brown, last 2 palpomeres yellowish.

Thorax: Prothorax yellow. Scutum shining brown-black, with median lighter longitudinal stripe. Scutellum ochreous yellow, with numerous small apical bristles and 3 longer pairs. Mediotergite brown, widely yellow at apex. Pleurae shining brown, except mesepimeron and metepisternite, which are yellow, as well as posteroventral margin of laterotergite. Laterotergite with long bristles, metepisternite with group of small posterior setae.

Legs: Yellow, tibial spurs orange-yellow. Tibia:protarsus I ratio 7:5,1.

Wings: Uniformly yellow, slightly darker at anterior margin. Costa extending slightly but distinctly beyond apex of R_5 . Subcosta setulose dorsally on apical

fourth, ending at R level with middle of cell r_4 . Petiole of anterior fork a little longer than rm crossvein. Point of furcation of posterior fork well before base of rm . Halteres with yellow stem and reddish yellow knob.

Abdomen: Tergite I yellow, slightly darkened dorsally at apex. Tergites II–VI yellow, posterior margin brown, and a less distinct sagittal line along entire length. Tergite VII brown, brownish yellow at base, VIII entirely brown. Sternites I–V entirely yellow, VI yellow with apical and lateral margins brownish with sagittal brown line. Terminal sternites brown. Hypopygium (Fig. 9): Brown. Ninth tergite short, transverse, covering dorsal surface of gonocoxal synsclerite only at base. Proctiger small, inserted ventrally on tergite IX. Gonocoxopodites almost entirely separated ventrally by narrow cleft, the apical margins of which bear a jutting, more strongly sclerotised strip (Fig. 10). Dorsally, gonocoxopodites well developed and bristly, their inner edge bearing more heavily sclerotised spiniform process. Gonostyles simple, ventrally inserted, with few setae, pointed at apex. Phallosome short, well sclerotised. Sclerotised arch between tergite IX and synsclerite may represent ninth sternite.

Female allotype: Differs from holotype by antennal scape and pedicel being entirely yellow, as well as clypeus, mediotergite and all pleural sclerites. Antennal flagellomeres proportionally shorter, but longer than broad. Wing: Subcosta ending a little before apex of cell r_4 . Tibia I:protarsus I ratio 3,5:2, protarsus twice length of second tarsomere; tarsomeres 2 and 3 slightly widened. Tarsi distinctly brown. Abdomen: Tergite I more broadly brown, apical tergal bands broader. Ovipositor brown.

Variation: All females show the same differences in coloration from the holotype as the allotype, especially the pleurae being entirely yellow. In most males, the metepimeron is brown on the dorsal half. Ending of subcosta on cell r_4 variable, but rarely before middle of cell. Males: Sometimes abdominal and pleural yellow coloration more extensive. In one male, R_4 is lost in both wings; in some specimens, Sc_1 expands a little beyond Sc_2 . Females: Sometimes base of anterior protarsus widely yellow. In both sexes, scutal median band may be more or less extensively yellowed in front, and in one female, this band is completely yellow.

Material examined: ♂ holotype, ♀ allotype, 9 ♂ 13 ♀ paratypes: South Africa, Natal, Cathedral Peak Forest Station, 75 km WSW. Estcourt, 1760 m, Malaise trap, 21–31.xii.1979, S. & J. Peck. 12 ♂ 6 ♀ paratypes: same data, but 1700 m. Holotype, allotype, 13 ♂ 12 ♀ paratypes in CNC, Ottawa. 7 ♂ 6 ♀ paratypes in Muséum national d'Histoire naturelle, Paris. With the kind authorisation of CNC, 1 ♂ 1 ♀ paratypes will be deposited in the Natal Museum, Pietermaritzburg.

Discussion: This species, like the following, is obviously closely allied to *D. nitida* Edwards, which is still known only from the unique female holotype (not seen). *D. peckorum* differs by details of coloration, such as the antennal scape and pedicel being yellow (scape light brown, pedicel blackish in *D. nitida*), the tarsi yellow instead of dark brown etc., and by the posterior fork beginning widely basad of rm crossvein instead of very slightly so as in *D. nitida*.

Dziedzickia stuckenbergorum sp. n.

Fig. 11

Male holotype: Length of wing: 4,2 mm.

Head: Occiput and frons uniformly brownish black. Three ocelli, the median half diameter of laterals, these separated from eye margins by less than their greatest diameter, from median ocellus by almost twice this diameter. Antennae: Scape and pedicel orange-yellow. Flagellum: Flagellomeres 1–3 orange, 3 greyish at apex, 4–7 greyish, remainder progressively darkened to brownish black. All flagellomeres cylindrical, a little broader than long, except the first and last which are longer than broad. Face, clypeus, proboscis and palpi yellow.

Thorax: Prothorax yellow. Scutum rufous brown at anterior margin, with 2 large yellow humeral spots, remainder shining brownish black, with median longitudinal deep rufous band, its limits imprecise. Scutellum yellowish rufous with numerous small apical setae and 4 longer pairs. Mediotergite orange. Pleurae entirely orange. Laterotergite bearing long erect bristles, metepisternite with tuft of 5–6 small posterior setae.

Legs: Yellow, tibial spurs orange-yellow. Tibia I:protarsus I ratio 3:2,2.

Wings: Yellow. Costa extending slightly but distinctly beyond R_5 . Subcosta setose dorsally on almost all of its length, ending on radius almost on R_s . R_4 absent, no small radial cell. Petiole of anterior fork longer than crossvein rm . Posterior fork beginning much basad of base of rm . Halteres with yellowish orange stem and dark rufous knob.

Abdomen: Tergite I yellow, slightly darkened on disk at apex. Tergites II–VI dark rufous, posterior margin brownish black. Tergites VII–VIII entirely brownish black. Sternites I–V uniformly dark yellow, following sternites brown. Hypopygium: Brownish black, much darker than *D. peckorum*, but ninth tergite and gonostyles almost identical. However lateral slabs on each side of ventral cleft of synsclerite much larger, and partly overlapping (cf. Figs 10 & 11).

Material examined: ♂ holotype: South Africa, Natal, Karkloof range nr Mt Alida, Geekie's Farm, 1500 m, 19.xi.1963, B. & P. Stuckenberg. Natal Museum, Pietermaritzburg.

Discussion: The male genitalia imply a very close relationship with *D. peckorum*, in spite of the loss of R_4 ; this absence may be of little significance, since one of the paratypes of *D. peckorum* has also lost this vein. The two species are easily distinguished based on colour characters.

Dziedzickia microstyla sp. n.

Figs 12–13

Male holotype: Length of wing: 4,6 mm.

Head: Occiput rufous yellow, strongly darkened on ocellar region, the brown coloration, weaker, extending laterally. Three ocelli in straight line, median one half diameter of laterals, these separated from eye margins by about their greater

diameter, and from median ocellus by twice this distance. Frons rufous-yellow. Antennae: Scape and pedicel yellow, scape large, funnel-shaped. Flagellum: Flagellomeres 1–3 yellow, following brown (last five missing); first flagellomere flattened-cylindrical, broader ventrally; flagellomeres 2–7 flattened and broader ventrally, 8–9 quadrangular. Face, clypeus, proboscis and palpi yellow.

Thorax: Prothorax yellow. Scutum shining yellow on anterior third, a median longitudinal band of same colour extending to middle; rest of scutum shining brownish black. Scutellum yellow with numerous small apical bristles and 3 longer pairs. Mediotergite and pleurae entirely shining yellow. Laterotergite bearing long erect setae, metepisternite with tuft of small yellow hairs.

Legs: Yellow. Tibiae, and especially tarsi, darkened by ciliation (only 1 anterior and 1 posterior legs present); tibial spurs yellow. Anterior protarsus reaching four-fifths length of tibia.

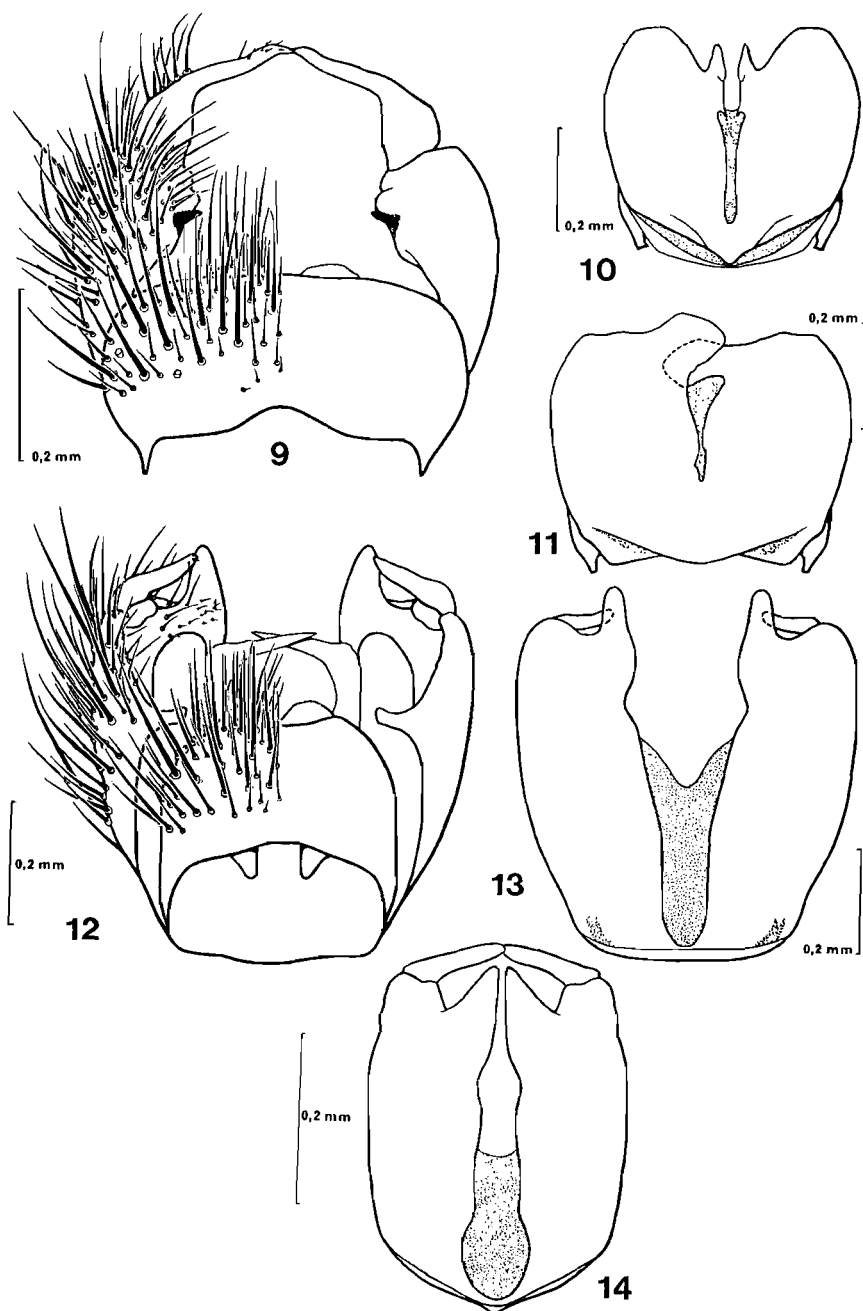
Wings: Yellow, slightly shaded apically. Costa extending slightly, but distinctly beyond apex of R_5 . Subcosta ending on radius a little before R_s . No small radial cell. Petiole of anterior fork as long as rm crossvein. Posterior fork beginning well before base of rm . Halteres: Stem yellow, knob brownish.

Abdomen: First tergite shining yellow with apical brown spot. Tergites II–V shining yellow, each with triangular and apically positioned shining brownish black spot, this extending to ventral margin of each tergite. Terminal tergites shining brown-black. Sternites I–V shining yellow, the following brown-black. Hypopygium (Figs 12–13): Brownish black. Ninth tergite short, covering only base of dorsal face of gonocoxopodites. Proctiger small, ventrally inserted on ninth tergite. Gonocoxopodites connected only at base, rest separated by wide longitudinal membranous cleft, apical margin extended in strong slab-like process. Dorsal face of gonocoxopodites large and ciliated, bridge around base of gonostyles small. Gonostyles very small, apico-dorsally inserted, simple, bearing only a few apical hairs. Phallosome small, well sclerotised, extended posteriorly by 2 strong processes jutting out distad of proctiger. As in preceding species, but less distinctly, sclerotisation between ninth tergite and synsclerite might represent remainder of ninth sternite.

Material examined: ♂ holotype: Central Madagascar, Bongolava, 'début décembre 1974', J. Chazeau & A. Peyrieras. Muséum national d'Histoire naturelle, Paris.

Discussion: *D. microstyla* is very distinct from other Afrotropical *Dziedzickia* because of the expanded flagellomeres. This character state is however not uncommon in other representatives of the genus. The great reduction of the gonostyles shows that it is closely allied to *D. donskoffi* sp. n.

A female from northern Madagascar [Madagascar Nord, Montagne d'Ambre, Les Roussettes, 1000–1100 m, ix–xii.1958, Andria Robinson; Muséum national d'Histoire naturelle, Paris] probably belongs to *D. microstyla*. It differs from the holotype as follows: Yellow coloration replaced by fine shining orange. Antennal flagellum normal, flagellomeres 1–2 orange, 3 brown but orange at base, 4–5 brownish black (rest of flagellum missing). Wings distinctly darkened apically.



Figs 9-14. Male genitalia of Afrotropical *Dziedzickia* (holotypes). 9-10. *D. peckorum* sp. n. 9. Hypopygium, dorsal. 10. Synsclerite, ventral. 11. *D. stuckenbergerorum* sp. n., synsclerite, ventral. 12-13. *D. microstyla* sp. n. 12. Hypopygium, dorsal. 13. Synsclerite and gonostyles, ventral. 14. *D. donskoffi* sp. n., synsclerite and gonostyles, ventral.

Abdomen shining: Tergite I uniformly brownish black, II brown with narrow orange basal band, III–VI orange with narrow apical brownish black band, apical tergites and ovipositor brownish black. The size of the specimen (wing length 5,2 mm) is much larger than *D. donscoffi*.

Considering the distance between localities and the sexual dimorphism which may occur in *Dziedzickia* (see *D. peckorum*), I prefer not to designate this specimen as allotype.

***Dziedzickia donscoffi* sp. n.**

Fig. 14

Male holotype: Length of wing: 2,8 mm.

Head: Occiput rufous yellow, strongly darkened on ocellar region, brown coloration weaker, extending laterally. Three ocelli in straight line, the median more than one-half diameter of laterals, these separated from eye margins and median ocellus by about twice their greater diameter. Frons orange-yellow. Antennae: Scape and pedicel yellow. Flagellum: Flagellomeres 1–3 orange-yellow, the following brown (terminal flagellomere missing); apical one-third of flagellum tapered, first 6 flagellomeres slightly flattened and a little broader ventrally than dorsally, but much less than in *D. microstyla*. Face, clypeus, proboscis and palpi yellow.

Thorax: Prothorax yellow. Scutum shining yellow on anterior half, then progressively darkened. Brown lateral spot above base of each wing, and stumps of 2 narrow median black-brown posterior stripes. Scutellum yellow, with numerous small apical bristles and 3 longer pairs. Mediotergite and pleurae entirely yellow. Laterotergite bearing long erect setae, metepisternite with tuft of small dark hairs.

Legs: Yellow. Tibiae and especially tarsi darkened by ciliation; tibial spurs yellow. Protarsus I:tibia I ratio 3,5:4.

Wings: Yellow. Costa extending distinctly beyond apex of R_5 , more so than in *D. microstyla*. Subcosta ending on radius at level of R_s . No small radial cell. Petiole of anterior fork as long as crossvein rm . Posterior fork beginning well before base of rm . Halteres: Stem yellow, knob slightly darkened.

Abdomen: Shining. First tergite entirely yellow. Tergites II–V yellow, each with narrow apical brown band, widened on dorsum; tergite VI almost entirely brown, yellowed at base below. Tergites VII–VIII entirely brown-black. Most sternites hidden by margins of tergites; sternite I entirely yellow, VI pale yellow with faint apical brown band, 2 faint lateral stripes and 1 median. Sternites VII–VIII brownish black. Hypopygium: Brownish black. Ninth tergite short, much wider than long, covering only base of dorsal face of gonocoxopodites. Proctiger small, ventrally inserted on ninth tergite. Gonocoxopodites connected only at base, the rest separated by wide longitudinal membranous cleft, apical margin of which extended in slab-like process, shorter and wider at base than in *D. microstyla* (Fig. 14). Gonocoxopodites almost entirely opened dorsally. Gonostyles small, apico-dorsally inserted, simple, bearing only a few apical hairs. Phallosome small,

weakly sclerotised, extended posteriorly by 2 processes jutting out distad of proctiger. Sclerotisation between ninth tergite and synsclerite as distinct as in *D. peckorum*.

Variation: The scutum may bear three complete narrow longitudinal stripes, these fainter beyond level of supra-alar spots.

Material examined: ♂ holotype and ♂ paratype: Eastern Madagascar, Lac Alaotra, limite forêt / cultures, piège de Malaise, 3.iii.1988, M. Donskoff.

Paratypes: same locality and collector, bord rivière, 2.ii.1988, 1 ♂; 29.ii.1988, 2 ♂. Muséum national d'Histoire naturelle, Paris.

Genus *Boletiniella* Matile

Boletiniella Matile, 1973: 204. Type species: *Boletiniella nigrifemur* Matile, 1973 (orig. des.).

This monotypic genus was erected for three males (two from Fernando Póo and one from West Cameroon). Three additional males have since been collected in Gabon by my colleague J. Legrand. I herewith give some additional characters which are probably of phylogenetic significance and had not been included in the brief original diagnosis of the genus.

Male:

Head: Occiput with long erect setae, but frons bare. Face narrow, clypeus short, both setiferous. Antepenultimate palpomere short and thick, with distinct sensorial pits.

Thorax: Scutum with regular rows of long acrostichals and dorsocentrals, separated from one another and laterals by wide bare areas. Scutellum bare on disc, with long marginal setae, lateral pair much longer than others.

Legs: Anterior tibia with distinct apical sensory area; mid tibia without sense organ.

Hypopygium: Ninth tergite large, covering almost entire dorsal face of gonocoxal synsclerite. Proctiger ventral to distal half of ninth tergite. Gonocoxopodites entirely separated ventrally, connected only basally, where thin sclerotised arc probably represents remainder of ninth sternite. Gonostyles small, bilobed, apico-laterally inserted, without modified setae. Phallosome short and broad, transverse, well sclerotised.

Boletiniella nigrifemur Matile

The specimens from Gabon show some differences in coloration from the type series: palpi entirely brownish, mid and posterior coxae more or less extensively darkened at apex, and posterior femora more or less yellowed at base. The male genitalia are identical.

Material examined: 1 ♂, Makokou M'Passa, affluent du Balé, 200 m, Malaise trap, 23.iv.–2.v.1979, J. Legrand; 2 ♂, same data, but 21–28.v.1979. Muséum national d'Histoire naturelle, Paris.

REFERENCES

- DZIEDZICKI, H. 1885. Przyczynek do fauny owadów dwuskrzydłych. Rodzaje nowe: *Hertwigia*, nov. gen., *Eurycera*, nov. gen. i gatunki rodzajów: *Boletina*, *Sciophila*. *Pamiętnik Fizyograficzny* 5: 164–194.
- EDWARDS, F. W. 1925. Mycetophilidae and Bibionidae (Diptera) in the collections of the South African Museum. *Annals of the South African Museum* 19: 601–616.
- HUTSON, A. M. 1979. Notes on Sciophilinae (Dipt., Mycetophilidae) with a revision of the Palaearctic *Syntemna* Winnertz. *Entomologists' Monthly Magazine* 114: 131–145.
- JOHANNSEN, O. A. 1909. Diptera. Fam. Mycetophilidae. *Genera Insectorum* 93: 1–141.
- MATILE, L. 1973. Diptères Mycetophilidae de Fernando-Póo. *Bulletin du Muséum National d'Histoire Naturelle. Paris, 3e sér., Zool.* 111(85): 189–213.
- 1980. Superfamily Mycetophiloidea 15. Family Mycetophilidae. In: Crosskey, R. W., ed., *Catalogue of the Diptera of the Afrotropical Region*. London: British Museum (Natural History) pp. 216–230, 1221–1222.
- 1988. Diptères Mycetophiloidea de Nouvelle-Calédonie. 2. Keroplatidae. In: Tillier, S., coord., *Zoologia Neocaledonica*, Vol. 1. *Mémoires du Muséum National d'Histoire Naturelle. Paris, sér. A, Zool.* 142: 89–135.
- 1990. Recherches sur la systématique et l'évolution des Keroplatidae (Diptera, Mycetophiloidea). *Mémoires du Muséum National d'Histoire Naturelle. Paris, sér. A, Zool.* 148: 1–682.
- 1991. Diptères Mycetophiloidea de Nouvelle-Calédonie. 4. Mycetophilidae Mycomyinae, Sciophilinae et Gnoristinae. In: Chazeau, J. & Tillier, S., coord., *Zoologia Neocaledonica*, Vol. 2. *Mémoires du Muséum National d'Histoire Naturelle. Paris, sér. A, Zool.* 149: 233–250.
- MEIGEN, J. W. 1818. *Systematische Beschreibung der bekannten europäischen zweiflügeligen Insekten*. 1. Aachen: Forstmann.
- SCHUH, R. T. 1991. Phylogenetic, host and biogeographic analyses of the Pilophorini (Heteroptera: Miridae: Phyllinae). *Cladistics* 7(2): 157–189.
- SCHUH, R. T. & STONEDAH, G. M. 1986. Historical biogeography in the Indo-Pacific: a cladistic approach. *Cladistics* 2(4): 337–355.
- VÄISÄNEN, R. 1986. The delimitation of the Gnoristinae: criteria for the classification of recent European genera (Diptera, Mycetophilidae). *Annales Zoologici Fennici* 23: 197–206.
- VOCKEROTH, J. R. 1980. New genera and species of Mycetophilidae (Diptera) from the Holarctic region, with notes on other species. *Canadian Entomologist* 112(6): 529–544.
- WINNERTZ, J. 1863. Beitrag zu einer Monographie der Pilzmücken. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien* 13: 637–964.

Date received: 30 September 1991